TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 45019

I. INTRODUCTION

This Class II individual permit is issued to Allied West Tissue Mills, Inc. for the operation of a tissue paper manufacturing facility. This facility will utilize commercially available virgin wood pulps, waste tissue paper, pulp substitutes of pre-consumer recycle and deinked recovered fiber as a raw material for the papermaking process. There will be no processing of raw wood to produce pulp. The products produced at this facility are "jumbo" rolls of facial and bath tissue paper, paper towels and napkins which are shipped off site for conversion into finished products. Present at the facility are two natural gas fired burners in an Air Cap Hood on the tissue machine and also a natural gas fired boiler used to provide process steam.

A. Company Information

1.	Company Address:	Allied West Tissue Mills, Inc. 11591 Etiwanda Ave. Fontana, CA 92337
2.	Facility Address:	Kish Avenue and 28th Street Yuma, AZ 85364

B. Background

This is the initial permit for this new facility.

II. FACILITY DESCRIPTION

A. Facility Description

This facility will manufacture "jumbo" rolls of tissue paper, napkin paper and paper towels on a tissue paper making machine. The stock (wet pulp), which provides the fiber for the furnish (the milk-like mixture containing papermaking chemicals, fiber and 99% water), is prepared from bales of virgin wood pulp, waste tissue paper, pre-consumer recycle and deinked recovered fiber. No initial pulping of wood is undertaken at this facility.

Stock is first prepared in a large vessel called a pulper which through mechanical agitation and addition of chemicals and water, the pulp is broken down into a slurry. The stock is then pumped to one of three pulp lines which are segregated based on physical characteristics of fiber length, width and cell wall thickness. Following additional processing which may include cleaning, deflaking, screening and washing, pulp from the three lines is blended prior to entering the paper machine to produce specific final product characteristics such as softness, absorbency and wet-strength. The stock is

diluted with rich white water which has drained off the forming section of the paper machine and pumped to the former. Excess white water and filtrates from the cleaning operations are clarified in a dissolved air flotation system, and either reused in the pulping process, the tissue machine or treated in the activated sludge wastewater treatment system with effluent proposed for discharge onto the land surface.

At the cresent former, the furnish is applied to a conveyor where gravity dewatering allows a sheet to form. The mist created by the high velocity movement of the sheet through the former is captured in a droplet separator by an induced draft fan, which exhausts as the emission point identified as "wet end exhaust" or "former". The sheet continues traveling through the paper machine to a rotating drum called the Yankee dryer, where additional liquid is removed. The Yankee dryer is heated with steam generated by a 24.9 million British thermal unit per hour (MMBtu/hr) boiler. The boiler is fueled by natural gas with the emission point identified as "boiler". The air cap partially surrounds the rotating Yankee dryer drum and provides heated air to evaporate water from the sheet. The air cap is composed of two sections (wet end and dry end), each with a 14 MMBtu/hr natural gas fired burner. Process variables for the two sections of the air cap are individually controlled, but emissions from combustion and the manufacturing process are exhausted through a common point identified as "air cap exhaust". Vacuum generated by water seal vacuum pumps is utilized at various steps in the process. The liquids accumulated by the vacuum pumps are collected in a pit which exhausts to the atmosphere as the emission point identified as "vacuum pump seal pit vent". The dry end is equipped with a dust collection system which uses a venturi scrubber to capture dust in a liquid stream. Solids are returned to the process through a separator which exhausts to atmosphere via an induced draft fan. This emission point is identified as "dry end dust system". The dry tissue paper is now wound on reels into parent rolls. Some of the rolls may be split into two rolls at a single reel slitter. The rolls are then wrapped and warehoused for shipment.

The building which houses the tissue machine is equipped with three exhaust vents each discharging approximately 12,750 cubic feet per minute (cfm), and two exhaust stacks discharging approximately 38,250 cfm each. These emission points are identified as "machine room vents" and "machine room stacks" respectively. The facility also includes an activated sludge wastewater treatment system for process wastewater. The two bioreactor aeration tanks of the wastewater treatment system vent to atmosphere and are identified as emission point "wastewater aeration tanks".

B. Air Pollution Control Equipment

There is no air pollution control equipment associated with this facility. A dust collection system is incorporated into the dry end of the tissue machine as a part of the process equipment and is not considered as a pollution control device.

C. Impact on Learning Sites

A search of the Arizona Department of Environmental Quality (ADEQ) database found no learning sites located within a two mile radius of the facility.

III. EMISSIONS

Emissions from the facility are the result of combustion of natural gas, the manufacturing processes and fugitive emissions from both vehicle traffic on paved roads and the wastewater treatment system. Table 1 below summarizes the potential to emit (PTE) of facility wide emissions calculated with a facility wide production limit of 137 oven dry tons per day (ODT/day).

Table 1:
Facility wide emissions (tpy)

Pollutant	*Boiler*	*Air Cap*	*Wet End*	*Dry End*	*Vacuum Pump Vent*	*Machine Room*		*Waste-water Aeration Tanks*	*Fugitive Dust*	*TOTAL*
						Vents	*Stacks*			
NO_x	10.4	11.0	- -	- -	- -	- -	- -	- -	- -	21.4
CO	8.7	36.8	- -	- -	- -	- -	- -	- -	- -	45.5
SO_x	0.07	0.07	- -	- -	- -	- -	- -	- -	- -	0.14
PM_{10}	0.8	9.1	4.8	3.4	- -	1.2	2.4	- -	0.3	22.0
VOC	0.6	1.4	1.1	- -	0.7	0.6	1.1	4.4	- -	9.9
HAP	0.02	1.8	0.05	- -	0.07	0.2	0.5	- -	- -	2.8

IV. APPLICABLE REGULATIONS

The applicable regulations listed in Table 3 below were identified by the Department. The source is required to list any additional regulations that may be applicable.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Verification
Boiler	Fuel restricted to natural gas	A.A.C. R18-2-901.5 40 CFR Subpart Dc	This standard is applicable to each steam generating unit constructed after June 9, 1989, with a heat input capacity from 10 to 100 MMBtu/hr
Air Cap Exhaust	Fuel restricted to natural gas	A.A.C. R18-2-730	This standard is applicable to unclassified sources

Former Wet End Exhaust, Dry End Exhaust, Vacuum Pump Seal Pit Exhaust Vent, Machine Room ExhaustVents (3), Machine Room Stacks (2)	Production limit of 137 ODTPD	A.A.C. R18-2-730	This standard is applicable to unclassified sources
Facility Wide	Tier 4 RMA	A.A.C. R18-2-Article 17	This standard is applicable to minor sources of state hazardous air pollutants in SIC 2621
Fugitive Dust Sources	Water and other equivalent controls	A.A.C. R18-2-602 A.A.C. R18-2-604 A.A.C. R18-2-605 A.A.C. R18-2-606 A.A.C. R18-2-607 A.A.C. R.18-2-613 A.A.C. R18-2-614 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources.
Mobile Sources	Water and other equivalent controls	A.A.C. R18-2-801 A.A.C. R18-2-802 A.A.C. R18-2-804	These standards are applicable to all mobile sources
Other Periodic Activities	Particulate matter control, proper selection of approved paint materials	A.A.C. R18-2-726 A.A.C. R18-2-727	These standards are applicable to all periodic activities including abrasive blasting and use of paints.

V. MONITORING REQUIREMENTS

A. Facility Wide

The facility is required to keep daily records of oven dry tons produced.

B. Boiler

1. Fuel usage

   The Permittee is required to maintain records of fuel usage.

2. Opacity

   The Permittee is required to perform a monthly visual survey of the emissions when the boiler is in operation. If the survey indicates that emissions may be exceeding the opacity limit, the permit requires the Permittee to perform an EPA Reference Method 9 observation.

C. Fugitive Dust Sources

The Permittee is required to perform monthly visual surveys of the emissions from the fugitive dust sources. If the survey indicates that emissions may be exceeding the opacity limit, the permit requires the Permittee to perform an EPA Reference Method 9 observation.

VI. IMPACTS TO AMBIENT AIR QUALITY

A. Introduction

An air quality impact modeling analysis was conducted to predict whether any criteria or hazardous air pollutant emissions associated with the facility might cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS) or exceed any Ambient Air Concentration as listed in Table 3 of A.A.C. Title 18, Chapter 2, Article 17.

B. Modeling Analysis Overview

1. Air Quality Model

   The dispersion modeling analysis was run using the EPA approved AERMOD modeling program. Combustion sources were modeled for continuous operation at maximum fuel input capacity, process emissions were modeled at a throughput rate of 137 ODT/day and fugitive emissions were modeled based on the activities necessary to support maximum production capacity.

   Calculated emission rates found no HAP to exceed the applicable lb/hr de minimis level established in Article 17, hence modeling for HAPs was only run

for annual emission rates and compared to the chronic ambient air concentrations, for those compounds which exceeded the lb/yr de minimis.

2. Modeled Emissions

The modeling results showed no pollutants for which data was available would be expected to exceed the referenced standards and guidelines.

Table 3: Modeling Analysis NAAQS Summary

Pollutant	Background ($\mu g/m^3$)	Total ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	% of NAAQS
NO_2 - Annual	11.3	19.8	100	19.8 %
CO - 1-hour	2,807	2,919	40,000	7.3 %
8-hour	1,260	1,347	10,000	13.5 %
PM_{10} - 24-hour	113	144	150	96 %
Annual	36	44	50	88 %
SO_2 - 3-hour	47.2	47.5	1,300	3.7 %
24-hour	27.1	27.3	365	7.5 %
Annual	7.9	8.0	80	10.0 %

Table 4: Modeling Analysis Tier 4 HAPs Summary

Pollutant	Modeled Result ($\mu g/m^3$)	CAAC ($\mu g/m^3$)	% of CAAC
Acetaldehyde	3.96E-01	8.62E-01	45.9%
Arsenic	2.0E-05	4.41E-04	4.5%
Beryllium	< 1.0E-05	7.90E-04	< 1.3%
Cadmium	1.0E-04	1.05E-03	9.5%
Chloroform	7.94E-03	3.58E-01	2.2%
Chromium	1.3E-04	1.58E-04	82.3%
Cobalt	1.0E-05	6.86E-04	1.5%
Formaldehyde	4.96E-02	1.46E-01	34.0%
Glycol Ether (1,2 Dimethoxyethane)	4.81E-03	3.14E+00	0.2%
Methylene Chloride	1.38E-01	4.03E+00	3.5%
Nickel	1.9E-04	7.90E-03	2.4%
Propionaldehyde	1.44E-01	8.62E-01	16.7%

VII. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
Acute AAC *or* AAAC ..... acute ambient air concentration
ADEQ ..... Arizona Department of Environmental Quality
cfm ..... cubic feet per minute
Chronic AAC *or* CAAC ..... chronic ambient air concentration
CO ..... carbon monoxide
EPA ..... Environmental Protection Agency
HAP ..... Hazardous Air Pollutant(s)
hr ..... hour(s)
lb ..... pound(s)
lb/hr ..... pound(s) per hour
MMBtu/hr ..... million British thermal units per hour
NAAQS ..... National Ambient Air Quality Standards
NOx ..... nitrogen oxides
ODT/day *or* ODTPD ..... oven dry tons per day
PM ..... particulate matter
PM_{10} ..... particulate matter less than or equal to10 microns
PTE ..... potential-to-emit
RMA ..... risk management analysis
SIC ..... Standard Industrial Code
SOx ..... sulfur dioxide
tpy ..... ton(s) per year
$\mu g/m^3$ ..... microgram(s) per cubic meter
VOC ..... volatile organic compounds